

Factors Associated with Patients' Perceptions of Health Care Providers' Communication Behavior

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We examined patients' ratings of communication with health care providers by sociodemographic characteristics, health care access, and health status. Data were from a national, population-based survey, the 2003 Health Information National Trends Survey (HINTS). The survey was administered to 6,369 adults from a representative sample of U.S. households. Linear regression analysis was conducted using SUDAAN. None of the sociodemographic variables were significantly associated with patients' ratings of providers' communication behavior in the linear model. Ratings of health care providers' communication behavior, however, were significantly higher among respondents with health insurance ($p=0.007$) and those with a usual source of health care from whom they consistently sought care ($p<0.001$). Ratings of provider communication were significantly lower among respondents who perceived their general health to be fair or poor ($p<0.001$) and among those respondents with greater depressive symptoms ($p<0.001$). Differences in patient ratings of health care providers' communication by health care access and health status suggest the potential for disparities in health outcomes.

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The manner in which physicians communicate with their patients has a significant impact on patients' health behaviors and health outcomes (Ashton et al., 2003; Stewart et al., 2000; Stewart et al., 1999; Stewart, 1995). Key aspects of patient-provider communication are associated with improvements in health outcomes including pain management, blood pressure, blood glucose, recovery time, emotional health, and functional status (Stewart, 1995; Stewart, et al., 1999; Stewart et al., 2000). Physicians also can influence the initiation, maintenance, or altering of behaviors relevant to health outcomes through promotion of smoking cessation, increased physical activity, and healthy diets (Dube, O'Donnell, & Novack, 2000; Eaton, Goodwin, & Stange, 2002; Ellerbeck, Ahluwalia, Jolicoeur, Gladden, & Mosier, 2001; Mickey, Vezina, Worden, & Warner, 1997; Podl, Goodwin, Kikano, & Stange, 1999; Whitlock, Orleans, Pender, & Allan, 2002). There is considerable evidence for the effectiveness of behavioral counseling interventions in health care settings for smoking cessation, physical activity, dietary change, and cancer screening (Eden, Orleans, Mulrow, Pender, & Teutsch, 2002; Pignone et al., 2003; Poon et al., 2004; Silagy & Stead, 2001).

Three important communication goals have been identified for physicians to accomplish during interactions with their patients: establish a good *interpersonal relationship*, facilitate *information exchange*, and facilitate patient *involvement in decision making* (Makoul, 2001; Ong, De Haes, Hoos, & Lammes, 1995; Simpson, Buckman, Stewart, Maguire, Lipkin, Novack, & Till, 1991). These goals characterize a group of communication behaviors often referred to as patient-centered communication (Brown, 1999). Patient-centered communication aims to promote empathy, shared understandings, and mutual decision making in patient-provider encounters (Bechel, Myers, & Smith, 2000; Brown, 1999; Ward, 2004).

The development of an *interpersonal relationship* between health care providers and patients is thought to be an important prerequisite for successful information exchange and collaborative decision making (Bakker, Fitch, Gray, Reed, & Bennett, 2001; Ballard-Reisch, 1990; Golin, DiMatteo, & Gelberg, 1996; Makoul, 2001). It is recommended that health care providers show interest in and be sensitive to patients' problems and feelings in order to create a warm and trusting atmosphere (Bakker et al., 2001; Bensing & Dronkers, 1992; DiMatteo, 1994). Considerable time during clinical visits typically is devoted to information exchange (Cegala, 1997; Ong et al., 1995). To facilitate the effective *information exchange*, the physician must listen to the patient's story, give information to the patient, and ensure that the patient understands the information given. Patients often have a need to know and understand information about their disease or condition (Ong et al., 1995); however, physicians often underestimate patients' desire for information and overestimate their own ability to convey information during clinical encounters (Cegala, 1997; Chaitchik, Kreitler, Shaked, Schwartz, & Rosin, 1992; Strull, Lo, & Charles, 1984). To attempt to counteract this, actively listening to patients without interruption to gain a better understanding of patients' subjective experiences and to generate greater rapport and feeling of openness with patients is commonly recommended (Simpson et al., 1991; Rosenblum, 1994). Successful information exchange between physicians and patients lays the foundation for patient *involvement in decision making* by ensuring that patient concerns are elicited and that the information given to patients is understood (Richards et al., 1995). When differences in opinion or preference emerge, physicians should attempt to facilitate discussion with patients and strive for mutually acceptable decisions (Charles, Gafni, & Whelan, 1999; DiMatteo & Lepper, 1998).

Several factors may influence the degree to which health care providers participate in patient-centered care (Brown, 1999; DiMatteo & Hays, 1980; Kaplan, Gandek, Greenfield, Rogers, & Ware, 1995). Previous research examining differences in patient-centered care by sociodemographic factors, patients' personal characteristics, and patients' access to health care has yielded inconsistent results (Brown, 1999; Kaplan et al., 1995). While lower levels of patient-centered care have been documented among patients with less education, racial and ethnic minorities, older patients, and male patients (Brown, 1999; Kaplan et al., 1995), these associations have not been consistently identified in previous research (DiMatteo & Hays, 1980). Continuity of care or duration of relationship with a health care professional has been consistently associated with greater patient-centered care (DiMatteo & Hays, 1980; Kaplan et al., 1995). Gaining an improved understanding of the relation between sociodemographic characteristics and health care interactions may be quite useful as these factors are both easily tracked and may also serve as markers for other key features affecting medical interactions. For example, individuals with lower levels of education may have more difficulty understanding physician recommendations, and individuals from various racial and ethnic minorities may be at risk for health disparities. In many ways sociodemographic factors also serve as a basic "context" that colors many interactions including those between patient and caregiver. As such, if these factors are associated with perceived quality of communication with health care providers, then they can also potentially be used to identify patients in need of additional attention to ensure effective health communication.

The aim of our analysis was to use a national sample to gain a clearer understanding of the sociodemographic characteristics, health care access, and health status variables that influence patients' perceptions of the quality of communication with their health care providers. Patients' ratings of health care providers' communication involved factors relevant to the development of an *interpersonal relationship* (health care provider spends time with patient and shows respect for the patient), *information exchange* (health care provider listens carefully and explains clearly), and *involvement in decision making* (health care provider involves patient in decisions about health care). We examined differences in patient perceptions of health care provider behaviors by key sociodemographic, health care access, and health status variables.

Methods

Data Source

Data for this investigation are from the 2003 HINTS. The HINTS collects nationally representative data every 2 years on the American public's need for, access to, and use of cancer-relevant information (Nelson et al., 2004).

Data Collection, Response Rates, and Sample

Data were collected from October 2002 through April 2003. The survey was administered to a representative sample of U.S. households by trained interviewers using computer-assisted random-digit dialing from all telephone exchanges in the United States. Exchanges with high numbers of Blacks and Hispanics were oversampled. One adult aged 18 or older within each household was selected for the extended interview during a household screener. Complete interviews were conducted with 6,369 adults (Nelson et al., 2004). The final response rate for the household screener

was 55%, and the final response rate for the extended interview was 62.8%. All responses to survey items classified as “refused” and “don’t know” were counted as missing. Respondents with missing values for relevant variables were excluded from analyses. The sample in our analysis included 5,343 respondents who reported that they saw a health care provider during the last year. Further details about the sample and sampling design are published elsewhere (Nelson et al., 2004).

Survey Items

The HINTS data provide a unique opportunity to examine factors associated with patients’ ratings of health care providers’ communication in a large, national, population-based survey. We examined the following covariates: sociodemographic characteristics (sex, age, race, ethnicity, education, income), access to health care (insurance, usual source of health care), and health status (perceived health status, cancer history, depressive symptoms).

Sociodemographic Characteristics

Ethnicity and race were assessed in separate items following Office of Management and Budget standards (Office of Management and Budget, Office of Information and Regulatory Affairs, 1997). The ethnicity item asked respondents to indicate whether they were Hispanic; the race item asked them to identify their race. Respondents could designate more than one racial category. Responses to the ethnicity and race questions were combined to create the following four categories: (1) non-Hispanic Whites, (2) non-Hispanic Blacks, (3) Hispanics, and (4) non-Hispanic others or multiple races specified.

Health Care Access

Health insurance status was assessed by asking respondents if they had *any kind of health care coverage, including health insurance, prepaid plans, such as health maintenance organizations (HMOs), or government plans such as Medicare*. For usual source of care, respondents were asked if they had *a particular doctor, nurse, or other health professional that they see most often*.

Health Status

Respondents were asked to rate their general health as *excellent, very good, good, fair, or poor*. Only a small percentage of respondents rated their health to be excellent (13.1%) or poor (4.8%); thus, to create a more balanced distribution of responses we reduced the five categories into the following three: (1) *excellent/very good*, (2) *good*, and (3) *fair/poor*. Respondents also were asked if they had ever been diagnosed with cancer. Finally, respondents were asked to rate on 5-point scales the amount of time they experienced each of the following six feelings: (1) *so sad that nothing could cheer you up*, (2) *nervous*, (3) *restless or fidgety*, (4) *hopeless*, (5) *that everything was an effort*, and (6) *worthless*. Reliability analysis of these items revealed high internal consistency (Cronbach’s $\alpha = 0.81$); thus, responses to these six items were summed into a composite depressive symptoms score ranging from 6 to 30, with higher scores indicating greater depression.¹

¹The depression items on HINTS were borrowed from the National Health Interview Survey 1997, Adult Core Questionnaire (item ACN.471).

Table 1. Descriptive analysis of patient ratings of physician behavior by sociodemographic, health care access, and health status variables

| Sociodemographics | Mean patient tating | N | SE mean |
|------------------------------|---------------------|------|---------|
| Sex | | | |
| Male | 17.3 | 1851 | 0.09 |
| Female | 17.4 | 3384 | 0.06 |
| Race | | | |
| Non-Hispanic White | 17.5 | 3622 | 0.05 |
| Non-Hispanic Black | 17.5 | 592 | 0.18 |
| Hispanic | 16.6 | 553 | 0.24 |
| Other or multiple races | 16.7 | 242 | 0.25 |
| Income | | | |
| <\$35,000 | 17.1 | 1983 | 0.11 |
| \$35,000 to <\$75,000 | 17.4 | 1629 | 0.10 |
| \$75,000+ | 17.5 | 1031 | 0.10 |
| Education | | | |
| Less than high school | 17.1 | 551 | 0.19 |
| High school | 17.3 | 1466 | 0.09 |
| Some college | 17.4 | 1388 | 0.10 |
| College graduate | 17.5 | 1655 | 0.07 |
| Age | | | |
| 18–34 | 17.1 | 1245 | 0.11 |
| 35–64 | 17.3 | 2849 | 0.06 |
| 65+ | 17.9 | 1132 | 0.10 |
| Employment | | | |
| Employed | 17.3 | 2890 | 0.07 |
| Out of work | 16.8 | 251 | 0.27 |
| Retired, student, homemaker | 17.6 | 1664 | 0.11 |
| Unable to work | 16.8 | 252 | 0.21 |
| Marital status | | | |
| Married | 17.4 | 2731 | 0.05 |
| Divorced, separated, widowed | 17.3 | 1365 | 0.14 |
| Never married | 17.1 | 799 | 0.13 |
| Unmarried couple | 17.1 | 162 | 0.25 |
| Health care access | | | |
| Health insurance | | | |
| No | 16.3 | 443 | 0.22 |
| Yes | 17.5 | 4619 | 0.05 |
| Usual provider | | | |
| No | 16.5 | 1250 | 0.12 |
| Yes | 17.6 | 3972 | 0.06 |
| Health status | | | |
| Perceived health | | | |
| Excellent/very good | 17.8 | 2213 | 0.09 |
| Good | 17.4 | 1705 | 0.08 |
| Fair/poor | 16.5 | 1154 | 0.15 |

(Continued)

Table 1. Continued

| Sociodemographics | Mean patient rating | <i>N</i> | SE mean |
|--|---------------------------|-----------------|-------------------------|
| Cancer history | | | |
| No | 17.3 | 4515 | 0.06 |
| Yes | 17.4 | 707 | 0.16 |
| Depressive symptoms score ¹ | Pearson <i>r</i> , $-.20$ | <i>N</i> , 5030 | <i>p</i> value $<.0001$ |

¹Depressive symptoms score ranges from 6 to 30, with higher scores indicating greater depressive symptoms.

Perceptions of Provider Communication Behavior

The patient's perception of the quality of patient-provider communication was assessed using HINTS items borrowed from the Consumer Assessment of Health Plans Study (CAHPS; Marshall, Morales, Elliot, Spritzer, & Hays, 2001). Respondents rated their general perceptions of the quality of their communication with health care providers over the past 12 months. Respondents were asked to indicate how often *doctors or other health care providers* engaged in the following activities: (1) listened carefully to you, (2) explained things in a way you could understand, (3) showed respect for what you had to say, (4) spent enough time with you, and (5) involved you in decisions about your health care. Responses were on the following 4-point scale: *always, usually, sometimes, never*. We reversed scores so that higher scores indicated greater endorsement of the health care provider behavior and created a composite score from the sum of ratings on each item. The resulting composite of ratings of health care providers' communication of our sample ranged from 5 to 20 and had high internal consistency (Cronbach's $\alpha = 0.82$).

Data Analysis

To account for the multistage sampling design of HINTS, we used SUDAAN (Research Triangle Institute, 2001) to calculate population estimates and confidence intervals (CIs). We calculated the mean patient rating of physician behavior for various subgroups defined by key sociodemographic, health care access, and health status variables. We also examined the Pearson correlation between ratings of health care providers' behavior and depressive symptom scores. Finally, we conducted a linear regression analysis to examine the association of sociodemographic characteristics, health care access, and health status variables with patients' ratings of providers' communication behavior.

Results

Overall ratings of health care providers' communication were favorable (Mean = 17.3). Table 1 summarizes patients' mean ratings of health care providers' communication behavior for subgroups defined by sociodemographic characteristics, health care access, and health status variables. Mean patient ratings of providers' behavior were similar among subgroups defined by sex, income, education, age, marital status, and cancer history. Slight differences in mean ratings of provider

Table 2. Linear regression for patient ratings of health care provider ($n = 4,528$)

| Sociodemographics | Beta | SE beta | <i>t</i> test | <i>p</i> value | 95% CI | |
|------------------------------|-------|---------|---------------|----------------|--------|-------|
| | | | | | Lower | Upper |
| Sex | | | | | | |
| Male | 0 | — | — | — | — | — |
| Female | 0.06 | 0.14 | 0.42 | 0.68 | −0.22 | 0.33 |
| Race | | | | | | |
| Non-Hispanic White | 0 | — | — | — | — | — |
| Non-Hispanic Black | 0.22 | 0.21 | 1.07 | 0.29 | −0.20 | 0.64 |
| Hispanic | −0.44 | 0.25 | −1.75 | 0.09 | −0.95 | 0.07 |
| Other or multiple races | −0.49 | 0.31 | −1.58 | 0.12 | −1.11 | 0.13 |
| Income | | | | | | |
| <\$35,000 | 0 | — | — | — | — | — |
| \$35,000 to <\$75,000 | −0.13 | 0.15 | −0.87 | 0.39 | −0.43 | 0.17 |
| \$75,000+ | −0.14 | 0.17 | −0.80 | 0.42 | −0.48 | 0.21 |
| Education | | | | | | |
| Less than high school | 0 | — | — | — | — | — |
| High school | −0.25 | 0.24 | −1.03 | 0.31 | −0.74 | 0.24 |
| Some college | −0.13 | 0.24 | −0.57 | 0.57 | −0.61 | 0.34 |
| College graduate | −0.39 | 0.20 | −1.92 | 0.06 | −0.80 | 0.02 |
| Age | | | | | | |
| 18–34 | 0 | — | — | — | — | — |
| 35–64 | 0.06 | 0.15 | 0.40 | 0.69 | −0.25 | 0.37 |
| 65+ | 0.30 | 0.24 | 1.28 | 0.20 | −0.17 | 0.78 |
| Employment | | | | | | |
| Employed | 0 | — | — | — | — | — |
| Out of work | 0.28 | 0.33 | 0.86 | 0.39 | −0.38 | 0.95 |
| Retired, student, homemaker | 0.03 | 0.14 | 0.23 | 0.82 | −0.26 | 0.32 |
| Unable to work | 0.13 | 0.29 | 0.43 | 0.67 | −0.47 | 0.72 |
| Marital status | | | | | | |
| Married | 0 | — | — | — | — | — |
| Divorced, separated, widowed | −0.09 | 0.16 | −0.57 | 0.57 | −0.41 | 0.23 |
| Never married | 0.06 | 0.18 | 0.37 | 0.71 | −0.29 | 0.42 |
| Unmarried couple | 0.03 | 0.25 | 0.11 | 0.91 | −0.47 | 0.53 |
| Health care access | | | | | | |
| Health insurance | | | | | | |
| No | 0 | — | — | — | — | — |
| Yes | 0.68 | 0.25 | 2.79 | 0.007 | 0.19 | 1.18 |
| Usual provider | | | | | | |
| No | 0 | — | — | — | — | — |
| Yes | 1.14 | 0.16 | 7.36 | 0.000 | 0.83 | 1.46 |
| Health status | | | | | | |
| Perceived health | | | | | | |
| Excellent/very good | 0 | — | — | — | — | — |
| Good | −0.15 | 0.12 | −1.27 | 0.21 | −0.38 | 0.09 |

(Continued)

Table 2. Continued

| Sociodemographics | Beta | SE beta | <i>t</i> test | <i>p</i> value | 95% CI | |
|--|-------|---------|---------------|----------------|--------|-------|
| | | | | | Lower | Upper |
| Fair/poor | −0.96 | 0.20 | −4.74 | 0.000 | −1.36 | −0.55 |
| Cancer history | | | | | | |
| No | 0 | — | — | — | — | — |
| Yes | −.20 | 0.21 | −.96 | 0.34 | −0.61 | 0.22 |
| Depressive symptoms score ¹ | −0.11 | .02 | −5.68 | 0.000 | −0.15 | −0.07 |

¹Depressive symptoms score ranges from 6 to 30, with higher scores indicating greater depressive symptoms.

communication were observed among subgroups defined by race and ethnicity, employment, health insurance, having a usual health care provider, and perceived health status. There was a significant negative correlation between ratings of provider communication and depressive symptoms score ($r = -0.20$), indicating lower ratings of provider communication behavior among respondents with greater depressive symptom scores.

Table 2 summarizes the results of the multivariate linear regression analyses examining the association of sociodemographic characteristics, health care access, and health status with patients' ratings of health care providers' communication behavior. None of the sociodemographic variables were significantly associated with patients' ratings of providers' communication behavior in the linear model. Both health care access variables, however, were significantly associated with patients' ratings (Table 2). Controlling for other sociodemographic, health care access, and health status variables, ratings of health care providers' communication behavior was significantly higher among respondents with health insurance (Mean = 17.5) compared with those without health insurance (Mean = 16.5) and among respondents with a usual source of health care (Mean = 17.6) compared with those without a usual source of care (Mean = 16.5). Perceived health status was also significantly associated with ratings of communication behavior in the linear model (Table 2). Ratings of provider communication were significantly lower among respondents who perceived their general health to be fair or poor (Mean = 16.5) compared with those who perceived their health as excellent or very good (Mean = 17.8). Decreases in ratings of health care provider communication behavior were observed (Beta = −0.11), with increases in depressive symptom scores indicating lower ratings of communication behavior among those respondents with greater depressive symptoms.

Discussion

We examined differences in patients' perceptions of communication with health care providers by key sociodemographic, health care access, and health status variables. Although lower levels of patient-centered care have been documented among variously defined sociodemographic subgroups (Brown, 1999; Kaplan et al., 1995), these associations have not been consistently identified in previous research (DiMatteo & Hays, 1980). In our analysis none of the sociodemographic variables were

significantly associated with ratings of health care providers' communication behavior. Although we cannot definitively state why we did not find an association, it may be that this is in part due to the nature of our sample drawn from a nationally representative population-based survey, rather than from a clinical setting. It also may be that the relations between sociodemographic characteristics and health care communication are more complex than previously appreciated. More research is needed in this area.

Consistent with previous literature (Schoen & DesRoches, 2000; Schoen, Lyons, Rowland, Davis, & Puleo, 1997), we found that individuals with insurance and those with a usual source of health care rated their communication with health care providers more favorably than those without insurance and without a usual source of care. This may indicate that individuals without established access to health care are in contexts that may hinder more favorable interactions with health care professionals. Although we do not have data to directly address why this may be, it seems likely that such individuals may seek health care in settings where time and other resources are overburdened, such as in emergency rooms and urgent care clinics. This may be especially problematic for individuals with chronic health conditions. No matter what the reason, this is a troublesome finding given the large number of individuals who do not have established health care access.

Individuals with poorer perceived health and higher depression scores also rated provider-patient communication less favorably. This may be of some importance, suggesting that populations in greater need of effective contact with the health care systems also are less satisfied with those contacts. There are a number of reasons why this might be. It is possible that such individuals are "predisposed" to rate any interaction as more negative. Conversely, it may be that such individuals are perceived as "difficult patients" by virtue of a greater need for multiple services and as such are eliciting negative reactions from health care providers. Or, simply, by having more medical and mental health needs, these individuals have more opportunities to truly not have had their needs adequately addressed. Prior research suggests that depressed individuals manifest deficits in social skills and often experience rejection in their social environments (Segrin, 2000; Segrin & Abramson, 1994). Therefore, patients with depressive symptomology may represent a group likely in need of particularly effective patient-provider interactions in order to optimize their ability to improve health outcomes. Models to guide patient-provider interactions have been developed to improve communication, enhance patient understanding, and facilitate effective coping (Burleson & Goldsmith, 1998; Rowan, Sparks, Pecchioni, & Villagran, 2003). Our findings identify subgroups of patients who report dissatisfaction with exchanges with health care professionals during clinical encounters; health care providers might use this information, along with guidance from models for improving health communication and patient coping, to improve patient outcomes.

Limitations

The final response rates for the household screener of 55%, and for the extended interview of 62.8%, although comparable with other national telephone surveys (Nelson, Powell-Griner, Town, & Kovar, 2003), are fairly low. Low response rates are problematic if there are systematic differences between those who respond and those who do not (Groves, 1989). Low response rates that reflect such systematic differences may limit the generalizability of the results to populations represented by

responders; however, it cannot be determined from these data whether there are any systematic differences between responders and nonresponders.

The HINTS instrument assessed patients' perceptions of provider communication in general. Thus, these data do not speak to particular patient-provider encounters, but rather capture an overall assessment of patients' perceptions of providers' communication. Furthermore, several potentially interesting and important factors associated with patient-provider communication were not assessed in HINTS. For example, health literacy and language proficiency recently have been highlighted as key factors associated with patient-provider communication (Baker et al., 2004; Schillinger & Chen, 2004); however, the HINTS data do not address said factors in association with patient-provider communication.

Conclusions

Interactions between patients and health care providers can have a significant impact on patients' health behaviors and health outcomes (Ashton et al., 2003; Stewart, 1995; Stewart et al., 1999; Stewart et al., 2000). We identified systematic differences in patients' perceptions of communication with health care providers by key health care access and health status variables, factors that are consistent with increased risk for health disparities. Thus, it seems likely that the factors we have identified that influence the quality of communication with health care professionals may serve to further exacerbate the potential for disparities in health outcomes. Our findings, although preliminary, may serve to inform efforts to enhance communication with subgroups of patients who report dissatisfaction with exchanges with health care professionals during clinical encounters through improvements in clinical practice and health policies. Further research is needed to more adequately characterize the association between patients' ratings of health care providers' communication behavior and individual and system variables. Ultimately, this line of research may support clinical practice and policy-level efforts aimed at improving access to health care and continuity in care.

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